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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,126	03/11/2004	Rizal Jaffar	70040126-1	7062

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EXAMINER	
PYO, KEVIN K	

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/799,126	JAFFAR ET AL.	
	Examiner	Art Unit	
	Kevin Pyo	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,10,13-15 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4,10,13-15 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doberenz (6,664,556) in view of Nishiyama (5,016,046) and Dosmann (5,477,326).

Regarding claim 4, Doberenz shows in Fig.1 a photodetector (LQ402) for generating a voltage output signal, a sawtooth generator (18) for producing a sawtooth wave, a synchronization input (XY_AB_ON_0) coupled to the sawtooth generator (col.2, lines 44-63) and a comparator (U401, U402) for comparing the sawtooth wave with the output signal of the photodetector and producing a pulse width modulated digital output (see abstract). Although Doberenz differs from the claimed invention in that it utilizes a phototransistor for producing a voltage signal, it is notoriously well known in the art to utilize a transimpedance amplifier with a photodiode in an optical receiver as shown in Nishiyama (Fig.3) to generate an amplified voltage signal. It would have been obvious to one of ordinary skill in the art to modify the device of Doberenz by replacing the phototransistor with a transimpedance amplifier and a photodiode of Nishiyama in view of amplifying the signal from a photodetector into a relatively large amplitude voltage signal and providing such a voltage signal to the comparator (U401). When the phototransistor shown in Doberenz is replaced by a photodiode with a transimpedance amplifier, the comparator of Doberez would be directly coupled to a transimpedance amplifier. Nishiyama discloses in col.2, lines 38-40 the sensors utilized in the device of Nishiyama are

photodiodes capable of measuring quantity of light of a wavelength of 400 to 800 nm (visible light). Although Nishiyama does not specifically mention the use of an optical filter, it is notoriously well known in the art to utilize an optical filter with a photodetector as disclosed by Dosmann (col.1, lines 54-66) and it would have been obvious to one of ordinary skill in the art to utilize an optical filter with a photodiode of Nishiyama in view of the desire to isolate a particular wavelength of light to be measured.

Regarding claim 10, it is notoriously well known in the art to integrate electrical circuit elements in a single integrated circuit in view of the desire to reduce the size of a device, and it would have been obvious, if not inherent in the circuitry of Doberenz, to one of ordinary skill in the art to integrate electrical circuit elements in a single integrated circuit in view of the desire to reduce the size of a device. It should be noted that when the photodetector of Doberenz is replaced with a photodiode and a transimpedance amplifier, the step of inverting a voltage outputted from a transimpedance amplifier is not required before the voltage is transmitted to the comparator of Doberenz.

3. Claims 13-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doberenz in view of Nishiyama, Dosmann and Fukuyama (5,117,118).

Regarding claims 13-15, although the device of Doberenz in view of Nishiyama and Dosmann does not specifically mention that its electrical circuit elements are formed on an integrated circuit comprising a plurality of pins, it is well known in the art to form electrical circuit elements on an integrated circuit as taught by Fukuyama (col.1, lines 8-16) and it would have been obvious to one of ordinary skill in the art to form circuit elements of Doberenz in view

of Nishiyama on an integrated circuit as disclosed by Fukuyama in view of the desire to reduce the size of a device. Fukuyama shows in Figs.1a-3 a ground pin (e), a single supply pin (f), a synchronization pin (b) and an output pin (a).

Regarding claim 17, when the phototransistor shown in Doberenz is replaced by a photodiode with a transimpedance amplifier, the comparator of Doberez would be directly coupled to a transimpedance amplifier.

4. Applicant's arguments filed 9/12/2006 have been fully considered but they are not persuasive.

The main point of applicant's argument regarding independent claims 4, 10 and 13 is that none of the prior art of record (i.e. Doberenz, Nishiyama, Dosmann and Fukuyama) discloses the applicant's claimed feature (i.e. a synchronized input coupled to a sawtooth generator). However, the Examiner disagrees with this argument. As stated above in the rejection, Doberenze discloses in col.2, lines 44-63 that a synchronization input (XY_AB_ON_0) coupled to a sawtooth generator (18; Fig.1).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Pyo whose telephone number is (571) 272-2445. The examiner can normally be reached on Mon-Fri (with flexible hour), First Mon. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Pyo
Primary Examiner
Art Unit 2878

Pkk
9/29/06